UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
CHEMICAL SAFETY AND
POLLUTION PREVENTION

MEMORANDUM:

From: Jennifer Urbanski, Ph.D.

Date: 12/30/14

Subject: PRODUCT PERFORMANCE DATA EVALUATION RECORD

DP barcode: 424036
Decision no.: 496244
Submission no: 958956
Action code: R340
Product Name: Bithor SC
EPA Reg. No or File Symbol: 83923-2
Formulation Type: liquid
Ingredients statement from the label with PC codes included: imidacloprid, 5%, bifenthrin, 4%
Application rate(s) of product and each active ingredient: 0.068%-0.135% Bithor SC in water, applied as a general surface, spot, crack or crevice treatment, treat until wet without runoff or drip

I. Action Requested: Review data to determine if carpenter ants can be added to the label

II. Background: One study was provided to support the use of the product to control carpenter ants.

III. MRID Summary:
49484907
(1) GLP or non-GLP? Non-GLP
(2) State the purpose and briefly summarize the methods and results as indicated by the study authors: A study was conducted to test the efficacy of Bithor SC at labeled rates of 0.068% and 0.135% on carpenter ants using unfinished wood panels (porous) and ceramic tiles (non-porous). Colonies of carpenter ants were collected in Idaho and maintained in the laboratory with a supply of honey, a protein source, and water. Two sets of substrates (porous and non-porous) were sprayed with Bithor SC at either 0.068% or 0.135% until runoff and either used 24 hours after drying or aged 30 days before testing by placing in an unheated garage where they were exposed to temperature, light, and humidity fluctuations. For each treatment, 5 replicates of at least 60 carpenter ants were used. Ants were exposed for either 5 minutes or 30 minutes then held in clean petri dishes. Mortality was monitored for 18 days (day 1, then every two days for 18 days or until there was 100% mortality). One hundred percent mortality was reached one day after exposure for the following treatments on surfaces aged for 1 day: 0.068% on tile after 5 minutes of exposure; 0.068% on tile after 30 minutes of exposure; 0.068% on unfinished wood after 30 minutes of exposure; 0.135% on tile after 5 minutes of exposure; 0.135% on tile after 30 minutes of exposure; 0.135% on unfinished wood after 5 minutes of exposure; and 0.135% on unfinished wood after 30 minutes of exposure. At the 0.068% rate after 5 minutes of exposure to unfinished wood, there was initially ~80% mortality after one day. There was some recovery in knocked down ants, but by 11 days there was >90% mortality, with 100% mortality reached at 19 days. Control mortality remained at an acceptable level. One hundred percent mortality was reached one day after exposure for the following treatments on surfaces aged for 30 days: 0.068% on tile after 5 minutes of exposure; 0.068% on tile after 30 minutes of exposure; 0.135% on tile after 5 minutes of exposure; 0.135% on tile after 30 minutes of exposure; and 0.135% on unfinished wood after 5 minutes of exposure. Greater than 90% mortality was reached for the treatments on surfaces aged for 30 days: at 19 days for 0.068% on unfinished wood after 5 minutes

of exposure; at 13 days for 0.068% on unfinished wood after 30 minutes of exposure; and at 7 days for 0.135% on unfinished wood after 30 minutes of exposure. Control mortality remained at an acceptable level.
(3) State conclusions as they relate to study results: Overall, the results support the use of the product to control carpenter ants. For substrates aged for 30 days, the product was efficacious at the 0.135% rate and at the 0.068% rate on non-porous surfaces.
(4) Is the study acceptable? Acceptable

IV. RECOMMENDATIONS:
The addition of carpenter ants to the label at the listed rates is acceptable.